

The invention claimed is

1 1. Transmission system for the frame-oriented
2 transmission of digital data by means of a carrier signal
3 using time-division multiplex operation, in which
4 the carrier signal comprises at least one first
5 useful signal (#1), and
6 there are different data rates between the carrier
7 signal and the first useful signal (#1),
8 first useful data of the first useful signal (#1)
9 can be embedded in useful data sections (RP) of a first
10 superframe (SF), second useful data of the first useful
11 signal (#1) can be embedded in stuff locations in the first
12 superframe (SF) in order to achieve rate matching between
13 the carrier signal and the first useful signal (#1), and
14 first indicator data (MFI) can be embedded in the
15 first superframe (SF), with the aid of which first indicator
16 data (MFI) is it possible to assign the second useful data
17 to the first useful signal (#1).

1 2. Transmission system according to Claim 1, in which
2 the carrier signal comprises at least one further
3 second useful signal (#2), and
4 there are different data rates between the carrier
5 signal and the second useful signal (#2),
6 third useful data of the second useful signal (#2)
7 are embedded in the first superframe (SF) and
8 fourth useful data of the second useful signal (#2)
9 can be embedded in stuff locations in a second superframe
10 (SF), in order to achieve rate matching between the carrier
11 signal and the second useful signal, and
12 second indicator data (MFI) are embedded in the
13 second superframe (SF), with the aid of which second
14 indicator data (MFI) the fourth useful data can be assigned
15 to the second useful signal (#2).

1 3. Transmission system according to Claim 2, in which
2 the first, in particular each superframe (SF) comprises a
3 plurality of frames, in particular four frames according to
4 the ITU-T G.975 Standard.

1 4. Transmission system according to Claim 3, in which
2 the first, in particular each frame comprises an overhead
3 (OH), and indicator data (MFI) are embedded in the overhead
4 (OH), in particular in a path layer overhead (POH).

1 5. Transmission system according to Claim 4, in which
2 indicator data (MFI) for each useful signal (#1, #2, ...,
3 #16) are not contained in the first superframe (SF).

1 6. Transmission system according to Claim 5, in which
2 stuff locations (105) for useful data of each useful signal
3 (#1, #2, ..., #16) are not reserved in each superframe (SF).

1 7. Transmission system according Claim 6, in which
2 indicator data (MFI) for assigning useful data to only the
3 first useful signal (#1) are embedded in the first
4 superframe (SF).

1 8. Transmission system according Claim 7, in which
2 stuff locations (105) for useful data only of the first
3 useful signal (#1) are reserved in the first superframe
4 (SF).

1 9. Transmission system according Claim 8, in which
2 stuff locations (105) for useful data of at most one useful
3 signal (#1) are reserved in each superframe (SF).

1 10. Transmission system according to Claim 9, in which
2 each superframe (SF), in particular the overhead (OH) of the
3 temporary third frame in the superframe (SF), has stuff
4 locations (105) and a region for embedding the indicator
5 data (MFI).

1 11. Transmission system according to Claim 10, in
2 which a plurality of, in particular four or sixteen
3 superframes (SF) are combined to form a multiframe (MF).

12. Transmission system according to Claim 11, in which each useful signal (#1, #2, ..., #16) can be assigned to a superframe of a multiframe (MF) by means of indicator data (MFI) which are embedded in the superframe, and stuff locations (105) for only the assigned useful signal are provided in the assigned superframe (SF).

13. Transmission system according Claim 12, in which the useful data sections (RP) to be stuffed are temporarily stored and/or embedded in four-byte fashion in the stuff locations (105).

14. Transmission system according to Claim 13, in which the stuff locations (105) and indicator data (MFI) together occupy at most eight bytes, and/or the indicator data (MFI) occupy at most four bits per superframe (SF).

15. Transmission system according to Claim 14, in which the indicator data (MFI) are protected by means of a code, in particular a Hamming code (HC(6,3,3)).

16. Transmission system according Claim 15, in which the data transmission is data-transparent and/or time-transparent.

17. Method for the frame-oriented transmission of digital data of a carrier signal using time-division multiplex operation, comprising the steps of

having at least one first useful signal (#1) within the carrier signal,

providing different data rates between the carrier signal and the first useful signal (#1),

embedding first useful data of the first useful signal (#1) in useful data sections (RP) of a first superframe (SF), embedding second useful data of the first useful signal (#1) in stuff locations in the first superframe (SF) in order to achieve rate matching between the carrier signal and the first useful signal (#1), and

14 embedding first indicator data (MFI) in the first
15 superframe (SF), with the aid of which first indicator data
16 (MFI) the second useful data can be assigned to the first
17 useful signal (#1).

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